

Notice of Allowability

Application No.

10/749,935

Examiner

Lev I. Iwashko

Applicant(s)

KULICK, STANLEY S.

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/18/2006.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 6/21/2006.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

TUAN V. THAI
PRIMARY EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Hunter Yancey on 6/21/2006.

Claim 1. (currently amended) A method, comprising:
partitioning a computer memory into a freeable range and a non-freeable range of operating memory devices, wherein pinned memory is confined to the non-freeable range and the operating memory devices in the freeable range constitute at least the same number of bytes as the operating memory devices in the non-freeable range;
de-allocating at least a portion of the freeable range of memory devices;
and
copying ~~the~~ contents of ~~the~~ a memory range supported by a memory device that holds pinned memory to at least one de-allocated memory device; and re-routing data requests destined for the memory device that holds pinned memory to the at least one de-allocated memory device so that the requests are directed to the at least one-de allocated memory device.

Claim 2. (currently amended) The method of claim 1, wherein requests are re-routed to the at least one de-allocated memory device ~~further comprising re-routing requests destined for the memory device that holds pinned memory to the at least one de-allocated memory device~~

when the contents of the memory range supported by the memory device that holds pinned memory are copied.

Claim 13. (currently amended) A method comprising:
issuing, by ~~[[the]]~~ a controller process, a partition call to partition a computer memory into a freeable range and a non-freeable range of operating memory devices;
receiving, by ~~[[the]]~~ an operating system process, the partition call and processing the call to partition the computer memory, wherein pinned memory is confined to the non-freeable range;
issuing, by ~~[[the]]~~ a controller process, a de-allocation call to de-allocate the freeable range of memory devices;
receiving, by ~~[[the]]~~ an operating system process, the de-allocation call and processing the call to de-allocate the freeable range of memory devices; **and**
issuing, by ~~[[the]]~~ an operating system process, a copying call to copy ~~the~~ a memory range supported by a memory device containing pinned memory to at least one de-allocated memory device; **and**
re-routing data requests associated with the pinned memory to the at least one de-allocated memory device so that the at least one-de allocated memory device can respond to the requests.

19. (currently amended) A system comprising:
a partitioning component operable to partition a memory into a freeable range and a non-freeable range of operating memory devices, wherein pinned memory is confined to the non-freeable range; **and**
a memory controller operable to de-allocate the freeable range of memory devices and copy ~~the~~ a memory range supported by a memory device which contains pinned memory to at least one de-allocated memory device; **and**
the memory controller further operable to re-route data operations to the at least one de-allocated device so the one de-allocated device responds to the data operation.

Allowable Subject Matter

3. Claims 1-22 are allowed.

4. The following is an examiner's statement of reasons for allowance: The examiner conducted an Applicant-initiated interview, where the applicant brought up a possible amendment to the claims that would make the claims novel. Upon review of the proposed amendments, the Examiner agreed that the proposed amendments were almost in condition for allowance. The Examiner then made a final Examiner Amendment for claims 1-2, 12 and 19 as shown above. Claims 1, 12, and 19 differ only in their word structure of methodology, or by being a system. Claim 2 needed amending so that it would be in condition for combining with claim 1, which still preserving its dependence.

5. The allowability of Claim 1 will be discussed in detail. The scope of Claim 1 includes partitioning the memory into a freeable and non-freeable range, utilizing a pinned memory in the latter range. The novelty of this notion comes into play with the amended portion of the claim, which demonstrates that there exist re-routing requests intended for the memory device which holds pinned memory to a de-allocated memory device so that the requests are directed to the said de-allocated memory device. This is a novel idea, because there is no prior art that specifically has a pinned-memory sparing method which includes these type of re-routing requests. The requests being specifically directed to the de-allocated memory device is a sufficient reason for allowance.

6. All other claims dependent on Claims 1, 13, or 19 are therefore in condition for allowance due to their dependence on the allowable parent claims.

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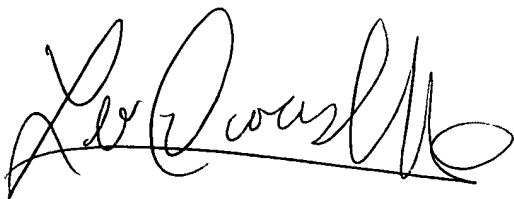
7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

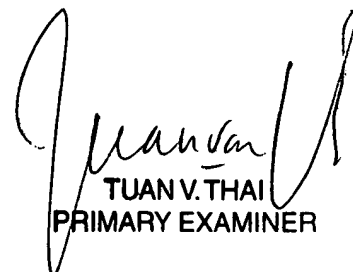
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lev I. Iwashko whose telephone number is (571)272-1658. The examiner can normally be reached on M-Th from 8AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lev Iwashko



TUAN V. THAI
PRIMARY EXAMINER